

Two Ph.D. / postdoc positions are available for three years starting September / October 2023 in the research group of Dr. Bhupesh Prusty at the University of Würzburg, Institute for Virology and Immunobiology.

The group focuses on understanding how HHV-6 latency and reactivation are governed by intrinsic (e.g., viral miRNAs) and extrinsic (other pathogenic infections) factors or stimuli. Future research will focus on understanding host-virus crosstalk during herpesvirus reactivation from a single cell to an organism level.

Human herpesvirus 6 (HHV-6) is a prevalent betaherpesvirus. While the primary infection is commonly subclinical and self-limiting, virus reactivation has been associated with several types of neuronal disorders, cardiac dysfunction, and graft rejection. HHV-6 (HHV-6A and HHV-6B) and HHV-7 are unique amongst the nine human herpesviruses as they establish long-term latency by integrating the viral genome into the telomeric region of human chromosomes. Earlier groundbreaking work from Prusty lab has explained the mechanism of virus release from these telomeric regions early in reactivation using the host cell telomeric loop (t-loop) machinery. Up to 1% of healthy individuals carry chromosomally integrated genetically inherited HHV-6 (iciHHV-6) in all cells. Here, a complete HHV-6 genome is integrated into the host germline genome and is vertically transmitted in a Mendelian manner.

The current project comprises the following major objectives. (a) Characterization of the mechanism of regulation of HHV-6 miRNAs and how the telomeric integration of the HHV-6A genome influences this. (b) Characterization of the functional role of miR-aU14, miR-30, p53, and Drp1 and mitochondrial fission in triggering HHV-6 reactivation. (c) Characterization of early events of HHV-6 reactivation at the single cell level and elucidate their role in infection outcome. (d) Developing novel *in vitro* infection models to study HHV-6 reactivation and pathogenesis.

DFG funds the current project. The project will provide an exciting opportunity for young researchers to interact with several international collaborative research groups. Furthermore, the doctoral researcher will become a part of the Graduate School of Life Sciences at the University of Würzburg (www.graduateschools.uni-wuerzburg.de/life_sciences), offering a strong peer network and a wide variety of research training and career development opportunities.

Applicants must hold a master's degree (or Ph.D. for postdoc applicants) in biology, biomedicine, biochemistry, virology, or a related discipline. The applicant should have a strong background in infection biology. Bioinformatics background, particularly working experiences with single-cell RNA-seq data analysis, is advantageous.

The University of Würzburg is an equal opportunities employer with particular emphasis on fostering career opportunities for women, who are strongly encouraged to apply. Applications of disabled persons with equal qualifications will be treated preferentially. Remuneration is based on the collective agreement for servants (TV-L) in Germany.

Please send your applications by e-mail to:

Dr. Bhupesh K Prusty

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Phone 0931-31-88067

The closing date for applications is 30.07.2023. **Please submit the following documents combined in one single PDF file** (only complete applications will be considered):

- Motivation letter
- Detailed curriculum vitae
- Description of research experience, including applied methodologies
- University diplomas and transcripts
- List of three references with complete contact details (including Master thesis supervisor)